

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

COMPLETE LISTING OF CLAIMS:

Claims 1-4 : (Canceled)

Claim 5 : (New) A communications system, comprising:

a) a plurality of tunable signal sources, each for generating a carrier signal of any one of a plurality of wavelengths;

b) first control means for controlling the signal sources so as to sweep the wavelength of the carrier signal generated by each source through the plurality of wavelengths, said first control means sweeping the signal sources in staggered manner so that at any point in time the signal sources are generating different wavelength signals;

c) a plurality of modulators, each for modulating information onto the swept carrier signal generated by a respective said signal source;

d) means for combining the swept modulated signals to form a combined signal and transmitting the combined signal;

e) means for filtering the received combined signal to extract therefrom a plurality of component signals, a component signal being extracted at each of the plurality of wavelengths;

f) second control means for controlling the filtering means so as to sweep the wavelength of each component signal extracted through the plurality of wavelengths, said second control means sweeping the wavelengths of the component signals in staggered manner in

synchronism with said sweeping of the signal sources by the first control means, the wavelength of each component signal thereby tracking the wavelength generated by a respective said tunable signal source; and

g) a plurality of demodulators, each for demodulating a respective said component signal provided by the filtering means thereby to recover information contained therein.

Claim 6 : (New) The communications system according to claim 5, wherein the filtering means comprises a plurality of tunable filters, each for filtering the received combined signal to extract a said component signal at one of the plurality of wavelengths; wherein the second control means controls the tunable filters so as to sweep the wavelength of the signal component extracted by each filter through the plurality of wavelengths, said second control means sweeping the filters in said staggered manner in synchronism with said sweeping of the signal sources by the first control means, each said tunable filter thereby tracking the wavelength generated by a respective said tunable signal source; and wherein each of the plurality of demodulators demodulates the signal provided by a respective said tunable filter thereby to recover the information contained therein.

Claim 7 : (New) The communications system according to claim 6, wherein each said tunable filter comprises a pair of tunable sub-filters that alternately track the next successive sweep of the tunable signal source corresponding to that said tunable filter.

Claim 8 : (New) The communications system according to claim 6, wherein each said tunable signal source comprises a pair of tunable sub-sources that alternately generate the next successive sweep of that said tunable signal source, and each said tunable filter comprises a pair of tunable sub-filters each tracking a respective one of the pair of tunable sub-sources of the corresponding said tunable signal source.